



Aerospace Education

January - February 2006

News

Inspiring Students To Excel

NCASE prepares for best year in 2006

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Aerospace Education News

Aerospace Education News is the official bimonthly publication of the Civil Air Patrol and is produced by the Leadership Development Directorate at CAP National Headquarters, Maxwell Air Force Base, Ala.

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If you have news, events, or ideas we might consider for the newsletter, please submit them electronically to jstone@cap.gov.

As a participant in the 2006 National Conference on Aviation and Space Education, you will be the center of a professional development experience like no other. NCASE presents each attendee with the opportunity to interact with colleagues, educational leaders, aviation and space personalities, as well as industry representatives to help you bring the wonder of aviation and space to your students.

NCASE update facts

➤ New partnership with National Science Teachers Association provides not only promotional opportunities, but also five break-out sessions conducted by NSTA and exhibit hall surprises throughout the conference.

➤ Online registration is now available at www.ncase.info.

➤ Nomination forms are available for those who have done exceptional work in the field of aviation

and space education to be considered for the prestigious Scott Crossfield Aerospace Teacher of the Year Award or the Crown Circle for Aerospace Education Leadership Award.

Major conference partners and contributors to date are: AC Supply Co., Aerospace Education Foundation, American Institute of Aeronautics and Astronautics, Civil Air Patrol, National Aeronautic Association, National Coalition for Aviation and Space Education, The Ken Cook Co., Virginia Department of Aviation, and Wolf Aviation Fund.

Planning is moving forward and attendance is limited, so mark your calendar now for this exciting event and register today.

Check out the NCASE Web site for additional updates at www.ncase.info. If you need more information, please don't hesitate to contact Claudine Sayegh at claudine.sayegh@andrews.af.mil or Judy Rice at jrice@cap.gov.

Oct. 19-21, 2006
Crystal Gateway Marriott Hotel
Arlington, VA



NCASE

National Conference on Aviation and Space Education



In the
AEO spotlight ...

Lt. Col. Ochowski



Boundless energy and contagious enthusiasm describe Wisconsin Wing's Lt. Col. Larry Ochowski.

Since October of 1983, Lt. Col. Ochowski has been involved in the lives of countless cadets and students in Wisconsin. His dedication to Civil Air Patrol has been evident in all he has accomplished in the past 22 years.

The colonel has held squadron jobs in Rock County Composite Squadron such as Senior Program Officer, Emergency Services Officer, Safety Officer, Deputy Squadron Commander, Squadron Commander, Admin/Personnel Officer, and Supply Officer.

His Wisconsin Wing jobs have included Senior Program Officer, Chief of Staff-Mission, Drug Demand Reduction Officer, Chief of Staff-Mission Support, and Net Control Officer as well as additional duties such as Public Affairs Officer, Moral Leadership Officer, Finance Officer, and AE Officer/Assistant.

As you can tell, Lt. Col. Ochowski understands all aspects of CAP and is willing to learn any job related to the operation of a squadron or wing.

Aerospace Education holds a special place in Lt. Col. Ochowski's heart. He has attended the National Conference on Aviation and Space Education since 2000 and has actively participated in making CAP's role in Kid Venture at

Experimental Aircraft Association's Air Venture a success for the last three years.

Lt. Col. Ochowski has given his time and energy to other events such as AirFest at Rock County Airport in Janesville, Wisconsin and he works with Lt. Col. Mike McArdle, Director of Aerospace Education for Wisconsin

Wing, on a continuous basis to further AE in Wisconsin Wing. He has worked for several years with the McNair Academy at McNair Elementary School in Milwaukee, Wisconsin.

Working with Lt. Col. McArdle, Lt. Col. Ochowski has set up displays for the combined Civil Air Patrol and Wisconsin Department of Transportation Bureau of Aeronautics in various locations to help promote aerospace education.

Lt. Col. Ochowski has many talents and an interesting background including a 36-year career in law enforcement he retired from in 1996. He is also a Red Cross instructor certified in many life-saving areas.

The colonel is married to the lovely June, who is also a CAP member. CAP is lucky to have such a resourceful and dedicated member and friend.

We salute the years of service Lt. Col. Ochowski has given to CAP and

wish him many, many more.



A Wisconsin Wing cadet builds a model rocket.

In the
AEM spotlight ...

Nancy Cooper



Nancy Cooper is an aerospace education spark! She provides the “fire” that it takes to get students involved in learning, and she shows them how to love science.

Nancy has always enjoyed creative projects both at home and at school. She is in her element when the students become involved in researching, building or creating. Because of her unique presentation of learning material, CAP's Aerospace Education activities are the perfect addition to her curriculum. For example, during the aerospace unit she teaches, students “grab” the concepts and standards she is trying to present to them by building and operating a mock-up of a shuttle cockpit or designing and building space stations out of empty plastic soda bottles.

Nancy is currently working on this year's projects that involve growing plants hydroponically and will include other grade levels in her aerospace adventure.

Graduating from Troy State University in 1973, Nancy has increased her knowledge of aerospace over the years by taking several courses that have spiked her interest including Space Camp in Huntsville, Alabama, and “Getting Comfortable Teaching Space” from the Space Foundation. By becoming a CAP

Aerospace Education Member (AEM), she has also been involved in interacting with other educators and many students. She has inspired them to get involved and has opened new worlds to explore.

Nancy has taught at Maxwell Air Force Base Elementary, a Department of Defense organization, for thirty-three years. During that time, she has been awarded such honors as: Who's Who in America's Teachers in 2000; District Teacher of the Year for the Maxwell District in 2003; and the Air Force Association (AFA) Local Chapter Teacher of the Year and the AFA State Teacher of the Year for Alabama in 2005.

Nancy commends the students and teachers that she works with as her “inspiration.” Their excitement continues to keep her involved and eager to start each new school year.

As Nancy so sincerely puts it, “I feel that igniting the afterburners of aerospace education in all classrooms will move our country forward in the search for new and technologically talented professionals. It will also keep our country in the forefront of exploration and continue to improve our lives on a daily basis. Furthermore, to light the fire of students and watch as their eyes pop with excitement is the ultimate reward in teaching.”

To Nancy and her fellow teachers, we say “thank you” for providing the inspiration that will help students excel in their lives and keep our nation strong.



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Virginia Department of Aviation promotes International Aviation Art Contest

Article by Betty Wilson

The Virginia Department of Aviation has a longstanding commitment to aviation education and provides a variety of opportunities for educators and students. According to Betty Wilson, who coordinates aviation education programs, each year the Virginia Department encourages schools to participate in the International Aviation Art Contest as well as other aviation-related programs.

The 2006 International Aviation Art Contest is open to students ages 6-17 who submit artwork interpreting the theme "Air Sports and Nature in Harmony." The contest is sponsored by the National Aeronautic Association, National Association of State Aviation Officials, National Aeronautics and Space Administration, and the Federal Aviation Administration, in cooperation with the Federation Aeronautique Internationale, to motivate and encourage young people of FAI-member countries to become more familiar with and participate in aeronautics, engineering, and science. Aviation agencies across the United States run their own statewide contests and submit their winners for national judging. National winners compete in the international contest with an opportunity to receive gold, silver, and bronze medals. The artwork generated by this contest is fantastic and, through the research that takes place to create the art, students learn a lot more about aviation. To find out more about the contest, go to www.nasao.org/.



Betty Wilson reviews 2006 Art Contest brochure.

Additional programs offered by the Virginia Department of Aviation include an annual Aviation Teachers Grant program, similar to the one offered by the Aerospace Education Foundation, that offers up to \$250 grants to Virginia educators who conduct avia-

tion-related lessons and the John R. Lillard and Willard G. Plentl Aviation Scholarship programs for Virginia high school seniors who plan aviation careers.

This year schools also received a "hold the date" card for the 2006 National Conference on Aviation and Space Education. The Virginia Department of Aviation is a proud sponsor of this important event. It is perhaps fitting that NCASE returns to northern Virginia since the area has a long aviation history that began well before the Wright Brothers when manned balloons were launched to gather intelligence during the Civil War. One such launch took place outside of Washington, DC near Arlington, Virginia (the location for NCASE 2006).

The Virginia Department of Aviation has been a supporter of aviation education for many years both in coordination with other organizations, such as NASAO and the National Coalition for Aviation Education and through independent programs. Betty Wilson, whose aviation background includes experience as a flight instructor, has managed these projects, as well as operated an aviation education resource center for the last 18 years. She is an enthusiastic proponent of aviation education, and she believes in the benefits of cooperative projects and encourages groups who promote aviation education to work together and support each other in their efforts.

"We enjoy working with the dedicated members of the Civil Air Patrol and are very excited about the 2006 National Conference on Aviation and Space Education coming back to the Commonwealth of Virginia."



AEF Grant Info

The winter cycle for the AEF CAP unit grants has ended and the winners will be announced in the next newsletter. In the meantime, educators should be getting their applications together and submitting them soon for the next cycle.

The deadline for this spring AEF Educator cycle is March 31, 2006.

AEF is a wonderful partner to CAP, and they continue to make a huge difference for aerospace education in CAP squadrons and in classrooms across America. Four times a year AEF offers aerospace grant cycles that alternate between CAP units and educators. AEF offers \$250 grants for promoting aerospace education.

Since 1996, AEF has contributed over \$140,000 in AEF grants, and we are tremendously grateful to them.

To help show our appreciation, winners complete a feedback form that includes a few details about how they spent the grant money. This feedback form takes less than five minutes to complete, and really is the least we can do to thank them for their generosity.

So educators, get those applications in and do your part in helping promote aerospace.

Grant applications can be downloaded at www.cap.gov/ae.

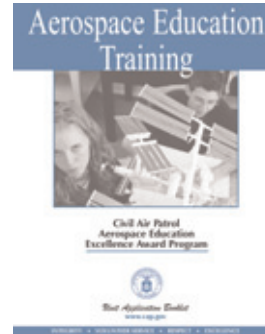
AEO News and Views

AEX Reminder!

The new Aerospace Education Excellence Award unit and educator brochures are now online at www.cap.gov/ae.

Please sign your classroom or unit up and receive our beautiful plaque and certificates upon completion of the program.

Also learn how to use the program to earn one semester of graduate credit. For details on this education professional development opportunity, go to www2.adams.edu/extended_studies/independent/aex/aex.php. If you have questions about this program, contact Kathy Baucum at kbaucum@cap.gov or call at 334-953-4213.



Satellite Tool Kit 6.2 now available

By now, every cadet squadron and composite squadron in CAP, plus all Region Deputy Chiefs of Staff for Aerospace Education and all Wing Directors of Aerospace Education should have received a STK 6.2 disk from the Aerospace Education Directorate at Civil Air Patrol National Headquarters.

The 6.2 disk is the newest version of STK. If you have STK 5.0 on your computer, delete it and download 6.2.

STK requires a license, and complete details on how to obtain a license was included in a letter that accompanied the 6.2 disk. If you did not receive the disk or the letter please notify Jeff Montgomery at jmontgomery@cap.gov.

STK offers a wonderful opportunity for cadets to learn more about space and satellite operations. These STK disks are a terrific gift from Analytical Graphics Inc., makers of STK, and a great partner of CAP.

We hope every squadron loads STK 6.2 on their squadron computer and enjoys the marvelous things you can do with it. We are excited about the learning and fun that will take place when STK is used.

CAP is deeply indebted to AGI for their generosity, and we are thrilled about all the additional space and satellite knowledge that will occur because of their dedication to aerospace education.



National Job Shadow Day - February 2, 2006

Job shadowing is a yearlong national effort to enrich the lives of students by acquainting them with the world of work through on-the-job experiences and a carefully crafted school curriculum that ties academics to the workplace. The culmination of these efforts is Job Shadow Day in February.

The effort helps young people understand how what they learn in the classroom leads to success in the workplace. National job shadowing is a coordinated effort of Junior Achievement, America's Promise - The Alliance for Youth, the U.S. Department of Education and the U.S. Department of Labor. For more information, visit www.JobShadow.org.



CURRICULUM CORNER ...

BLACK HISTORY MONTH

Tuskegee Airmen — One of America's Finest Moments

Objectives:

1. Students will discuss bravery, patriotism, and discrimination and research the Tuskegee Airmen.
2. Students will create a memorial honoring the Tuskegee Airmen.

National Social Studies Standards:

1. Culture
2. Time, Continuity, and Change
3. People, Places, and Environment
10. Civic Ideals and Practices

Grade Level: 9-12

Background Information:

On July 19, 1941, the Army Air Force began a program in Alabama to train black Americans as military pilots. Primary flight training was conducted by the Division of Aeronautics of Tuskegee Institute, the famed school of learning founded by Booker T. Washington in 1881. Once a cadet completed primary training at Tuskegee's Moton Field, he was sent to nearby Tuskegee Army Air Field for completion of flight training and for transition to combat type aircraft.

The first classes of Tuskegee airmen were trained to be fighter pilots for the 99th Fighter Squadron, slated for combat duty in North Africa. Extra pilots were assigned to the 332d Fighter Group which flew combat missions along with the 99th Squadron from bases in Italy.

In September 1943, a twin-engine training program was begun at Tuskegee to provide bomber pilots. However, World War II ended before these men were able to get into combat. By the end of the war, 992 men had graduated from pilot training at Tuskegee, 450 of whom were sent overseas for combat assignment. During the same period, approximately 150 lost their lives while in training or on combat flights.

Additional men were trained at Tuskegee for aircrew and groundcrew duties—flight engineers, gunners, mechanics, armorers, etc. Others were sent to South Carolina, Texas and New Mexico for training as navigators and bombardiers.

Materials:

Research materials on the Tuskegee Airmen, paper,



Tuskegee Airmen retired Air Force Lt. Col. Charles Dryden and Col. Charles McGee autograph books at NCASE 2004.

pencil, pictures of memorials and access to the Internet.

Procedure:

1. Ask students why and how do we honor people and/or events? Define bravery, patriotism and discrimination. (Bravery refers to courage or valor; patriotism refers to love and loyal or zealous support of one's own country; discrimination refers to making or perceiving differences and distinctions.) Discuss memorials such as the Sept. 11 memorial or the memorials in Washington, D.C.
2. Discuss the role of the Tuskegee Airmen and their World War II contributions. Ask students to create a memorial to honor the Tuskegee Airmen. Such ideas as dioramas, art (pictures, sculpture, etc.), poetry, songs, or a symbol can be used as memorials.

Assessment:

Use a rubric that contains assessment questions such as:

1. Does the memorial exemplify the contributions of the Tuskegee Airmen?
2. Does the memorial relate what was learned about bravery, patriotism, and discrimination?
3. Did the idea capture an audience's attention and convey a message?

Credits:

Background information online at www.celebratefreedom-foundation.org. Lesson plan idea developed by Stacy Wells, Dr. Barbara Shin and Dr. Rosilyn M. Carroll with the Center for Excellence in Urban Teaching in St. Paul, Minn.



Aviation Careers & The Tuskegee Airmen

Objectives:

1. Students will read about and discuss the Tuskegee Airmen and their impact on aviation careers.
2. Students will research a chosen aviation career and present it to the class.

National Social Studies Standards:

2. Time, Continuity, and Change
8. Science, Technology, and Society

National English Language Arts Standards:

3. Evaluation Strategies
4. Communication Skills
8. Developing Research Skills
9. Multicultural Understanding
12. Applying Language Skills

Grade Level: 9-12

Background Information:

The Tuskegee Airmen were dedicated, determined young men who enlisted to become America's first black military airmen, at a time when there were many people who thought that black men lacked intelligence, skill, courage and patriotism.

Those who possessed the physical and mental qualifications were accepted as aviation cadets to be trained initially as single-engine pilots and later to be either twin-engine pilots, navigators or bombardiers. Most were college graduates or undergraduates. Others demonstrated their academic qualifications through comprehensive entrance examinations.

No standards were lowered for the pilots or any of the others who trained in operations, meteorology, intelligence, engineering, medicine or any of the other officer fields. Enlisted members were trained to be aircraft and engine mechanics, armament specialists, radio repairmen,

parachute riggers, control tower operators, policemen, administrative clerks and all of the other skills necessary to fully function as an Army Air Corps flying squadron or ground support unit.



Materials:

Research resources about the Tuskegee Airmen and aviation careers, computer with Internet access, paper, pencil.

Procedure:

1. Ask students if they have ever thought about a career in aviation. Have them brainstorm jobs that are available in the area of aviation. Examples are as follows:

Pilot - airline, military, corporate, helicopter, agricultural pilots, air traffic reporter, astronaut, flight instructor

Operations - air traffic controller, fire and rescue, flight dispatcher, maintenance, ground attendant, safety inspector, scheduling

Manufacturing - assemblers and installers, electricians, machine tool operators

Airline and Airport Services - air freight and cargo agent, customer service representative

Flight Attendant - flight attendant, reservation sales agent, ticket agent

Law - accident investigators, attorney, customs agent, security specialist, sky marshal

Science - architects, cartographers, meteorologists, radar and navigation

technicians

Engineers - aeronautical, civil, electrical, mechanical

Other - food service, health services, secretaries, travel agents, information systems specialists

2. Discuss the role that the Tuskegee Airmen played in career opportunities in aviation. Research some of the careers that the Airmen continued in after the War.

3. Have students work in pairs. Ask them to choose an aviation career and research it for the following information: salary range, educational requirements, who would employ them, and a description of the job responsibilities. They might even do a video interview with someone from that career to add to their presentation.

4. Ask them to conclude their presentation with a short paragraph on what advice a Tuskegee Airman might give them about pursuing their career goals.

Assessment:

Use a rubric to evaluate the presentations. Consider such questions as:

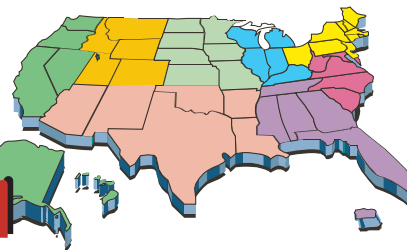
- Does the report include information on the salary, education, employer, and a description of the job?
- Did the concluding paragraph make reference to sound research concerning the advice on pursuing goals from a Tuskegee Airman?
- Was the report clear and organized with correct spelling and grammar usage?

Credits:

Background information from Tuskegee Airmen Inc. National Web Site. Lesson plan idea developed by Stacy Wells, Dr. Barbara Shin and Dr. Rosilyn M. Carroll with the Center for Excellence in Urban Teaching in St. Paul, Minn.



REGION TO REGION



NORTHEAST REGION

For detailed information about the Northeast Region Aerospace Education program, visit their Web page.

<http://ner.cap.gov/ae>

MIDDLE EAST REGION

Feb. 28 - March 1

31st Annual FAA Aviation Forecast Conference will be held at the Washington Convention Center in Washington, D.C.

www.faa.gov/news/conferences/aviation_forecast_2006

March 23-25

The International Technology Education Association's 68th Annual Conference will be held in Baltimore, Maryland at the Baltimore Convention Center.

www.iteaconnect.org

GREAT LAKES REGION

Jan. 20-21

The Great Lakes International Aviation Conference will be held at the Lansing Center in Lansing, Michigan.

www.greatlakesaviationconference.com

Feb. 8-10

Hoosier Association of Science Teachers Inc. (HASTI) will present their 36th Annual Convention. Entitled "Making Connections," this professional development opportunity for Indiana Science Teachers will be held at the Indiana Convention Center in Indianapolis, Indiana.

www.hasti.org/convention/convention.html

March 30-April 1

The Center for Astronomy Education presents a workshop for teachers of astronomy on "Improving the Introductory Astronomy Survey Course for Non-Science Majors Through Active Learning." This event will take place at Wayne University in Detroit, Michigan.

<http://astronomy101.jpl.nasa.gov/workshops>

SOUTHEAST REGION

Feb. 11

The Instructional Technology Council presents e-Learning 2006 at the Hyatt Regency Savannah in Savannah, Georgia.

www.itcnetwork.org/elearning2006.htm

March 10-12

"TICO Warbird Airshow" will be held at the Space Coast Regional Airport in Titusville, Florida.

www.vacwarbirds.org/tico.html

March 23-25

17th Annual International Women in Aviation Conference will be held at the Opryland Hotel in Nashville, Tennessee.

www.wai.org/conference/2006_conf_index.cfm

NORTH CENTRAL REGION

Jan. 7-8

2006 Midwest Aviation Conference and Trade Show for pilots and enthusiasts will be held at Drury Inn-Union Station in St. Louis, Missouri.

www.macts.org/index.html

Feb. 16-20

The American Association for the Advancement of Science (AAAS) will hold its annual meeting in St. Louis, Missouri at the Renaissance Grand Hotel.

www.aaas.org/meetings/Annual_Meeting

SOUTHWEST REGION

Feb. 11-12

The Center for Astronomy Education presents a workshop for teachers of astronomy on "Improving the Introductory Astronomy Survey Course for Non-Science Majors Through Active Learning." This event will take place at Pima Community College in Tucson, Arizona.

<http://astronomy101.jpl.nasa.gov/workshops>

ROCKY MOUNTAIN REGION

Feb. 24-26

Experience the latest educational technology for math and science at the T³ International Conference to be held at the Hyatt Convention Center Hotel and Colorado Convention Center in Denver, Colorado.

<http://education.ti.com/us/training/conferences/international/2006/overview.html>

March 2-4

Montana Aviation Conference will be held at the Red Lion Colonial Inn in Helena, Montana. For more information contact Patty Kautz at 406-444-2506.

PACIFIC REGION

Jan. 12-14

The Association for Science Teacher Education will hold its 2006 International Conference in Portland, Oregon at the Portland Marriott Downtown.

<http://aste.chem.pitt.edu>

April 6-9

The 54th National Conference on Science Education is presented by the National Science Teachers Association (NSTA). This event will be held in Anaheim, California.

www.nsta.org/conventiondetail&Meeting_Code=2006ANA

ITEMS OF INTEREST

Feb. 19-25

• National Engineers Week will be observed. Find out about activities and outreach planned during this week at

www.eweek.org

• Become a "Windows to the Universe" educator by visiting Windows to the Universe. Learn about resources and materials that explore Earth and Space Sciences and the historical and cultural ties between science, exploration, and the human experience.

www.windows.ucar.edu